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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,178	03/31/2000	Stephen R. Vogel	DIVA-244	2614

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EXAMINER

NALEVANKO, CHRISTOPHER R

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/540,178

Applicant(s)

VOGEL ET AL.

Examiner

Christopher R. Nalevanko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>27 Apr. 2005</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on 04/27/2005 has been entered.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-10 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al (6,412,079) in further view of Imanaka (EP0854610) and Sawicz et al (5,889,775).

Regarding Claim 1, Edmonds shows an apparatus having redundant provider equipment for improving fault tolerance comprising a server (fig. 5 items 214 and 218), comprising a plurality of server modules for storing content (col. 4 lines 10-37, RAID storage device), a switch coupled to each of the server modules at the head end for forwarding requested content from at least one of the plurality of server modules to the

subscriber equipment (fig. 5 items 210 and 212, col. 7 lines 25-35, switches), and a plurality of head-end controllers coupled to each server module of the plurality of server modules via at least two signal paths (fig. 5 items 216 and 220, director, col. 7 lines 25-55, director for providing load balancing algorithms). Although Edmonds shows at least two signal paths between the server modules (fig. 5), Edmonds fails to specifically state that each communication between a head-end controller and a server module is coincidentally sent through the two signal paths. Imanaka shows that each communication between a server node another control module is coincidentally sent between two signal paths (fig. 1, col. 4 lines 10-20, transmission data from servers are concurrently sent to both communication lines 1 and 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds with the ability to coincidentally send two signals through two signal paths, as shown in Imanaka, so that the system would ensure signal reception as well as provide robust communications.

Although Edmonds shows sending digital data through switches, Edmonds and Imanaka fail to show that the switch is a video switch. Sawicz shows sending video data through a video switch in a redundant system (col. 7 lines 10-41, series and stages of video switches). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds and Imanaka with a video switch, as shown in Sawicz, to provide the users with a wide range of data types.

Regarding Claim 2, Edmonds further shows that a plurality of subscriber equipment is capable of interfacing with the at least one head-end controller and server

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for receiving information upon request (see figure 5 items 200, 202). Edmonds fails to show that this data is video data. Official Notice is taken that it is well known and expected in the art to send video data across a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds with the ability to send video data to provide the users with a wide range of data types.

Regarding Claim 3, Edmonds shows at least two switches coupled between the at least one head-end controller and the server modules (see figure 5 items 210, 212).

Regarding Claim 4, Imanaka shows the ability to send redundant messages across a network to a server module and the ability to discard messages that have been already received (col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded). Furthermore, these signals must travel through switches, controllers, and servers since they are being sent through a large network (see fig. 1).

Regarding Claim 5, Imanaka shows disregarding either the initial or redundant message (col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded).

Regarding Claim 6, Imanaka further shows that multiple acknowledgement data is routed from one server module to another controller (col. 7 lines 45-67, col. 8 lines 1-26, abnormality detection process, pieces of identification information and received data and pieces of corresponding reception time information are registered in system-A queue and system-B queue). Imanaka shows disregarding either the initial or redundant message

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(col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded).

Regarding Claim 7, Imanaka shows disregarding either the initial or redundant message (col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded).

Regarding Claim 8, Edmonds shows that the switch has a plurality of I/O ports coupled to the server modules and subscriber equipment for transferring the information (see figure 5 item 210). Edmonds further shows a least two switch controllers coupled to a head-end controller (see figure 5 items 210, 212, 214, 216, 218, 220) and the I/O ports, wherein the one of two switch controllers serves as a primary switch controller for routing the information between the I/O ports, and a second switch controller serves as a secondary switch controller for monitoring status of the I/O ports, whereby the secondary switch controller initiates a switchover in a an instance of a failure (col. 7 lines 23-67, col. 8 lines 1-13, col. 2 lines 1-27, 35-50).

Regarding Claim 9, Edmonds shows that the switch controller, or director, is coupled to the head-end controller, or server, via on of the switches and the second controller is coupled to the server via second switch (see figure 5 items 210, 214, 216, col. 7 lines 25-55). Edmonds states that the Web server may provide 'system management,' which executes processes of a head-end controller (col. 7 lines 30-33). Sawicz further shows connecting the server and controllers with a number of video switches (fig. 6, col. 7 lines 7-40, three stages of video switches).

Regarding Claim 10, all the limitations of the claim have been discussed with regards to Claim 9.

Regarding Claim 26, Edmonds further shows a plurality of access controllers coupled to each head-end controller and said video switch (fig. 5 items 216, 220, directors used for client load balancing), said access controllers for forwarding said requested content from said video switch to said subscriber equipment in response to a request for content from said subscriber equipment (col. 7 lines 5-55, director providing web content through router, switch, and Web server when request by user).

2. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al (6,412,079) in further view of Imanaka (EP0854610), Sawicz et al (5,889,775), and Deitz et al (6,412,079).

Regarding Claim 11, although not specifically stated, it is nonetheless inherent that there must be a switch processor within the switch for processing control commands between the head-end controllers and switch controllers, and between the controllers and the I/O ports. This is inherent to all digitally controlled switches so that they may function properly in routing signals to a designated location. Sawicz further shows connecting the server and controllers with a number of video switches and a switching matrix (fig. 6, col. 7 lines 7-40, three stages of video switches).

Edmonds fails to show a timer for periodically querying the operational status of the controllers. Deitz shows a 'pinging' system that periodically queries controllers to see if the controllers are operational (col. 7 lines 30-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds,

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Imanaka, and Sawicz with the ability to query the switch controllers, as shown in Dietz, so that the system would know when a switch has failed and the status of an operational switch.

3. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al (6,412,079) in further view of Imanaka (EP0854610), Sawicz et al (5,889,775), Deitz et al (6,412,079), and Miyamoto et al (5,845,061).

Regarding Claim 12, Deitz shows the ability to send periodic messages, or pinging, to controllers and the ability to indicate a problem when a certain time elapses. Furthermore, if these messages are periodic, it is inherent that there is some type of timer coupled to the sending apparatus (col. 6 lines 64-67, col. 7 lines 30-50). Also, although not specifically stated, it is inherent that the system must have a control registers to receive and store commands from the switch controller. Without this equipment, the system would not route signals properly or execute commands correctly. Edmonds and Deitz fail to show a plurality of status registers. Miyamoto shows status registers that store the state of the system controllers to indicate whether or not that section of the system is operational or has failed (col. 11 lines 15-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds, Imanaka, Sawicz, and Deitz with the status registers so that the system would be able to store the condition of the system for reference.

Dietz and Miyamoto also fail to show the use of a memory table for storing routing addresses. Official Notice is taken that it is well known and expected in the art to use tables to store the routing addresses of components in a network. Therefore, it would



have been obvious to one of ordinary skill in the art at the time the invention was made to include memory tables so that the system would know the proper destination to send messages.

Regarding Claim 13, Miyamoto further shows pinging, or polling messages, to the system for information (col. 11 lines 1-14). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault" then a back up system initiates (col. 11 lines 1-67, col. 12 lines 1-67). It is also inherent that the status of the system is stored as bits.

Regarding Claim 14, Miyamoto further shows polling messages to the system for information (col. 11 lines 1-14). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault" then a back up system initiates (col. 11 lines 1-67, col. 12 lines 1-67). It is also inherent that the status of the system is stored as bits. Deitz also shows registering an error if an elapsed time has occurred between polling messages (col. 6 lines 64-67).

### *Conclusion*

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Nalevanko whose telephone number is 571-272-7299. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on 571-272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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